

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

- 1                   1.       (Withdrawn) A method for identifying genes which are up- or down-  
2 regulated in intestinal tissue of patients who have, or are at risk of developing, an inflammatory  
3 bowel disease or disorder, comprising:
  - 4                   (i) generating a first library of nucleic acid probes representative of genes  
5 expressed by intestinal tissue of an animal without apparent symptoms and/or risk for an  
6 inflammatory bowel disease or disorder;
  - 7                   (ii) generating a second library of nucleic acid probes representative of genes  
8 expressed by intestinal tissue of an animal which has symptoms of, and/or is at risk for  
9 developing, an inflammatory bowel disease or disorder; and
  - 10                  (iii) identifying genes that up- or down-regulated, e.g., by at least a predetermined  
11 fold difference, in the second library of nucleic acids relative to the first library of nucleic acids.
- 1                   2.       (Withdrawn) The method of claim 1, including the further step of cloning  
2 those genes which are up- or down-regulated.
- 1                   3.       (Withdrawn) The method of claim 1, including the further step of  
2 generating nucleic acid probes for detecting the level of expression of those genes which are up-  
3 or down-regulated.
- 1                   4.       (Withdrawn) The method of claim 1, including the further step of  
2 providing kits, such as microarrays, including probes for detecting the level of expression of  
3 those genes which are up- or down-regulated.
- 1                   5.       (Withdrawn) A method for determining the phenotype of a cell,  
2 particularly a cell of intestinal origin, comprising detecting the differential expression, relative to

3 a normal cell, of at least one gene shown in Table 1 (herein the "IBD gene set"), or other IBD  
4 genes identified according to the method of claim 1.

1                   6.       (Withdrawn) The method of claim 5, wherein the assay detects a  
2 difference in the level of expression of an IBD gene of at least a factor of two.

1                   7.       (Withdrawn) The method of claim 5, which is used to assess a patient's  
2 risk of having, or developing, an inflammatory bowel disease.

1                   8.       (Withdrawn) A kit for assessing a patient's risk of having or developing  
2 an inflammatory bowel disease, comprising

3                   (i) detection means for detecting the differential expression, relative to a normal  
4 cell, of at least five genes shown in Table 1 (herein the "IBD gene set") or the gene products  
5 thereof; and

6                   (ii) instructions for correlating the differential expression of IBD genes or gene  
7 products, if any, with a patient's risk of having or developing an inflammatory bowel disease.

1                   9.       (Withdrawn) The kit of claim 8, wherein the detection means includes  
2 nucleic acid probes for detecting the level of mRNA of the IBD genes.

1                   10.      (Withdrawn) The kit of claim 8, wherein the detection means includes  
2 nucleic acid probes for detecting the presence of mutations or changes in methylation patterns to  
3 genomic sequences encoding the IBD genes.

1                   11.      (Withdrawn) The kit of claim 8, wherein the detection means includes an  
2 immunoassay for detecting the level of IBD gene products.

1                   12.      (Withdrawn) A method of doing a business for assessing a patient's risk  
2 of having or developing an inflammatory bowel disease, comprising

3                   (i) providing a service for determining the level of expression of an IBD gene set  
4 or gene products thereof, and comparing the level of expression to a normal cell; and

5 (ii) assessing a patient's risk of having or developing an inflammatory bowel  
6 disease, if any, by determining the correlation between the differential expression of IBD genes  
7 or gene products with known changes in expression of IBD genes measured in other patients'  
8 suffering from an inflammatory bowel disease.

1 13. (Withdrawn) A method for treating a patient who has developed, or is at  
2 risk of developing, an inflammatory bowel disease comprising:

3 (i) detecting the differential expression, relative to a normal cell, of at least one  
4 IBD gene;

5 (ii) proscribing a course of treatment dependent on the level of expression of the  
6 IBD gene(s) relative to normal cells.

1 14. (Canceled)

1 15. (Canceled)

1 16. (Withdrawn) A drug screening assay comprising

2 (i) administering a test compound to an animal having an inflammatory bowel  
3 disease, or a cell composition isolated therefrom;

4 (ii) comparing the level of IBD gene expression in the presence of the test  
5 compound with one or both of the level of IBD gene expression in the absence of the test  
6 compound or in normal cells; wherein test compounds which cause the level of expression of one  
7 or more IBD genes to approach normal are candidates for drugs to treat inflammatory bowel  
8 diseases.

1 17. (Withdrawn) A method for treating an animal having an inflammatory  
2 bowel disease comprising administering a compound identified by the assay of claim 16.

1 18. (Withdrawn) A pharmaceutical preparation for treating an animal having  
2 an inflammatory bowel disease comprising a compound identified by the assay of claim 16 and a  
3 pharmaceutically acceptable excipient.

1           19-26. (Canceled)

1           27.   (New) An array for diagnosing inflammatory bowel disease (IBD) in a  
2 subject comprising:

3           (a) nucleic acid probes for determining an expression level of at least one gene  
4 product in a sample from said subject, wherein said gene product is an mRNA of a gene selected  
5 from the group consisting of macrophage inflammatory protein-2 $\beta$  (GRO3), neutrophil lipocalin  
6 (HNL), elastase specific inhibitor (elafin), and type VI collagen  $\alpha$ 3 chain (COL6A3); and

7           (b) a substrate to which said nucleic acid probes are bound,  
8 wherein a difference in the expression level of said gene product in said subject compared to an  
9 expression level of said gene product in a healthy subject indicates that said subject has IBD or is  
10 at risk of developing IBD.

1           28.   (New) The array of claim 27, wherein said IBD is ulcerative colitis (UC).

1           29.   (New) The array of claim 27, wherein said IBD is Crohn's disease (CD).

1           30.   (New) The array of claim 27, wherein said array distinguishes between  
2 UC and CD.

1           31.   (New) The array of claim 27, wherein the expression level of said gene  
2 product differs by at least a factor of two.

1           32.   (New) The array of claim 27, wherein said sample is a needle biopsy core,  
2 a surgical resection sample, a bowel sample, lymph node tissue, or serum.

1           33.   (New) The array of claim 27, wherein said nucleic acid probes  
2 specifically hybridize to said gene product.

1           34.   (New) The array of claim 27, wherein said nucleic acid probes are bound  
2 to said substrate by covalent bonds or hydrophobic interactions.

1                   **35.**     (New) The array of claim **27**, wherein said nucleic acid probes are spotted  
2     onto said substrate in a two-dimensional matrix or array.

1                   **36.**     (New) The array of claim **27**, wherein said substrate is selected from the  
2     group consisting of paper, membranes, filters, chips, pins, and glass.